

ABSTRACT

A high-silica content zeolite having a novel crystal structure, a zeolite membrane and manufacturing methods for these are provided, and the present invention relates to a zeolite having the chemical composition represented by $[(\text{Si}_{36-x}\text{T}_y\cdot\text{O}_{72})\cdot\text{M}_z]$ (wherein M is a cation of an alkali metal such as Li, Na, K or Rb, T represents Al, Ga, Fe and Ce as skeleton substituting elements, x satisfies $0 \leq x \leq 3.0$, y satisfies $0 \leq y \leq 1.0$ and z satisfies $0 \leq z \leq 3.0$), and having a micropore formed of covalent bonds between Si and O atoms, with a specific diffraction peak at 2θ in powder x-ray diffraction, together with a zeolite membrane and methods for manufacturing these.